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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,080	08/30/2006	Yutaka Murakami	L9289.06177	5875
52989	7590	04/24/2009		
Dickinson Wright PLLC James E. Ledbetter, Esq. International Square 1875 Eye Street, N.W., Suite 1200 Washington, DC 20006			EXAMINER PATHAK, SUDHANSHU C	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 04/24/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/589,080

**Applicant(s)**

MURAKAMI ET AL.

**Examiner**

SUDHANSHU C. PATHAK

**Art Unit**

2611

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date 08/11/2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-9 are pending in the application.

#### ***Specification***

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabak (6,724,828).

In regards to Claims 1-2, Dabak discloses a transmitting apparatus (Fig.'s 2, 4A-

B) comprising: a baseband signal former that changes an assignment of a modulated signal to a plurality of slots in accordance with transmission data and makes baseband signals in varying channel matrix patterns in accordance with

transmission data (Fig.'s 2, 4A-B & Column 2, lines 12-28 & Column 4, lines 6-26 & Column 6, lines 38-62 & Column 7, lines 1-24) {Interpretation: the reference discloses the diversity detect performing changes in assignment and this is interpreted as the performing the function of the transmission data}; a transmit antenna comprising a plurality of antennas that transmits the radio signals (Fig. 1, elements 128-130). Dabak further discloses a transmission amplifier and diplexer for transmitting radio signals (Fig. 7, element 702, 718). However, Dabak does not explicitly disclose a radio section that converts the baseband signals to radio signals. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that a wireless communications apparatus comprises a radio section converting baseband signals (data) to radio signals for transmission.

In regards to Claim 3, Dabak discloses a transmitting apparatus as described above. Dabak further discloses the transmit antenna comprises a plurality of antennas (Fig. 1, elements 128, 130); and the baseband signal former comprises a space-time block encoder that changes a pattern of a space-time block code in accordance with transmission data (Fig.'s 1-2, 4A-B, element "STTD Encoder"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Dabak satisfies the limitations of the claim.

In regards to Claim 5, Dabak discloses a transmitting apparatus as described above. Dabak further discloses a multi-carrier modulator that assigns a signal made in the space-time block encoder to a plurality of subcarriers, wherein the space-time block code signal is subjected to multi-carrier modulation and transmitted at the

plurality of antennas (Column 1, lines 5-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Dabak satisfies the limitations of the claim.

In regards to Claim 6, Dabak discloses a receiving apparatus (Fig. 7) comprising: a channel matrix estimator that estimates a channel matrix using a plurality of slots of data (Fig. 7, element 732); and a transmission data estimator that estimates transmission data based on a data assignment pattern to the channel matrix (Fig. 7, elements 710-714). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Dabak satisfies the limitations of the claim.

In regards to Claims 7-9, Dabak discloses a receiving apparatus as described above. Dabak further discloses the transmission data estimator identifies a pattern of space-time block codes received and estimates the transmission data (Fig. 5 & Fig. 7, elements 732, 710-714). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Dabak satisfies the limitations of the claim.

#### ***Allowable Subject Matter***

5. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUDHANSHU C. PATHAK whose telephone number is (571)272-5509. The examiner can normally be reached on 9am-5pm.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sudhanshu C Pathak/  
Primary Examiner, Art Unit 2611

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